

## ContainerPower Energy Solutions

# Solar energy system application in Eritrea



## Overview

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In a landmark move toward sustainable energy, Eritrea is set to welcome its first solar photovoltaic energy storage plant, marking a significant step in the nation's renewable energy journey. Can a digital elevation model estimate solar energy in Eritrea?

In this work, a digital elevation model (DEM) is applied to estimate the potential of solar energy in Eritrea at a regional level for the photovoltaic system. The ArcGIS and ENVI softwares are used to compute the solar radiation from the DEM data.

Does Eritrea have solar power?

Eritrea's weather, characterized by long sunny days throughout the year, makes it suitable for harnessing solar power. Data from the wind and solar monitoring stations installed in many parts of Eritrea show that the country has a great potential, around 6 kWh/m<sup>2</sup> of solar energy.

Why is Eritrea partnering with Solarcentury?

Eritrea's collaboration with Solarcentury and the African Development Bank underscores the country's commitment to renewable energy and sustainable development. As Eritrea advances in expanding its solar energy infrastructure, it continues to pave the way toward achieving universal electricity access by 2030.

What are the benefits of solar energy in Eritrea?

The government of Eritrea has been making efforts to promote the use of alternative sources of energy, especially solar energy, to mitigate the problems associated with the use of fossil fuel. A major benefit of solar energy is that it does not pollute the environment and saves money in the long run even if its installation cost is quite high.

Is Eritrea suitable to develop photovoltaics electricity?

Thus the results show that Eritrea is suitable to develop the photovoltaics (PVs) electricity where the 69% and 31% part of the country is categorized as excellent suitable and highly suitable to generate the PVs power.

What is BB Energy & Solarcentury doing in Eritrea?

The Eritrean Ministry of Energy and Mines and Solarcentury, a subsidiary of BB Energy, have entered into a significant \$20 million agreement aimed at enhancing solar energy infrastructure in the Western region of Eritrea.

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